

OFFICE OF MANNED  
SPACE FLIGHT

APOLLO PROGRAM

N66 34643

FACILITY FORM 802

(ACCESSION NUMBER)  
43  
(PAGES)  
1MX 57841  
(NASA CR OR TMX OR AD NUMBER)

(THRU)  
1  
(CODE)  
15  
(CATEGORY)

# EVALUATION OF CONTRACTOR QUALITY PROGRAM PLAN

BASED ON NPC200-2

GPO PRICE \$ \_\_\_\_\_

JULY 1966

CFSTI PRICE(S) \$ \_\_\_\_\_

Hard copy (HC) \$2.00

Microfiche (MF) 150



FF 653 July 65

PREPARED BY  
APOLLO PROGRAM OFFICE

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION  
WASHINGTON, D.C. 20546

July 1966

## PREFACE

This guideline has been prepared as an aid to Apollo Program personnel (NASA, Government Agency, and Contractors) in the evaluation of a Contractor's Quality Program Plan in accordance with the requirements of NPC 200-2, "Quality Program Provisions for Space System Contractors." This guideline will provide assurance that all of the required quality program provisions are considered in the evaluation of a Contractor's Quality Program Plan. Comments or questions concerning this publication should be referred to the Apollo Program Office, Reliability and Quality Assurance, NASA, Washington, D. C. 20546.



George A. Lemke  
Director, Apollo  
Reliability and Quality

## INTRODUCTION

The Quality Program Plan is the document that describes in detail the contractor's program for implementing the requirements of an effective quality system and requires the utmost care in its preparation to ensure accuracy and completeness. Accordingly, the evaluation of a plan by NASA personnel is of great importance.

This checklist of questions has been prepared as an aid to the reviewer of a Quality Program Plan to effectively evaluate a Plan. The checklist is based on the requirements of NPC 200-2 and is arranged in a format similar to the sections of NPC 200-2, including sub-paragraph references and titles, with the exception that section 2 of this checklist covers both sections 1 and 2 of NPC 200-2. By following this checklist, the reviewer is assured that he has considered all of the phases of the required quality program and can determine whether or not the contractor has included them in the plan.

To make the evaluation a measurable quantity, a numerical rating system is included. This means establishing a percentage figure to indicate the degree of coverage for each and every question in the checklist. Each question is to be considered on its own merit with equal importance for all questions. It must be emphasized that in establishing the percentage of coverage, only the content of the Plan is to be considered in the evaluation. The reviewer should not consider other knowledge of the contractor's operation or the results of previous surveys or Plan submittals.

The ratings to be used are as follows:

Not covered	0%
Unacceptable coverage	25%
Poor coverage	50%
Good	75%
Excellent	100%
Not applicable	NA

The NA is used to indicate that the question does not contractually apply to the contractor's quality program as determined from a review of the contract quality requirements provisions and is not to be considered in the numerical evaluation.

To obtain an evaluation for each of the major sections, the reviewer should average all of the figures in each section considering each question of equal importance in the evaluation. Thus, at the conclusion of the review, there should be a numerical rating for each section of the Plan, which should be recorded on the summary sheet of this checklist.

Section 1 of this checklist is included as an indication of an acceptable format of good practice and need not be rated nor considered in the overall evaluation of the Plan.

The space provided at the right of the rating column is to be used for remarks, such as indicating corrective action, or defining the nonconformance, or any pertinent comments regarding the specific question. For every question that does not rate 100 percent compliance, there should be a notation in the remarks column to indicate the reason for the less than 100 percent rating.

After completing the review, the reviewer should make a narrative summary of his observations, based on the notations in the remarks column, include numerical rating for each section, note outstanding nonconformances to contractual requirements, and conclude with a recommendation for approval or disapproval of the Plan. In the case of disapproval, the quality areas that require corrective action or further negotiation with the contractor should be identified.

# EVALUATION OF CONTRACTOR'S QUALITY PROGRAM PLAN

## SUMMARY AND RECOMMENDATIONS

CONTRACTOR \_\_\_\_\_ CONTRACT NO. \_\_\_\_\_

STAGE OR VEHICLE \_\_\_\_\_

DOCUMENT NUMBER AND REVISION \_\_\_\_\_ DATE \_\_\_\_\_

SECTION NUMBER AND TITLE		RATING %
SECTION 2.0	BASIC REQUIREMENTS . . . . .	
SECTION 3.0	MANAGEMENT . . . . .	
SECTION 4.0	DESIGN AND DEVELOPMENT CONTROL . . . . .	
SECTION 5.0	CONTROL OF CONTRACTOR PROCURED MATERIAL . . . . .	
SECTION 6.0	CONTROL OF GOVERNMENT FURNISHED PROPERTY . . . . .	
SECTION 7.0	CONTROL OF CONTRACTOR FABRICATED ARTICLES . . . . .	
SECTION 8.0	NONCONFORMING MATERIAL . . . . .	
SECTION 9.0	INSPECTION, MEASURING, AND TEST EQUIPMENT . . . . .	
SECTION 10.0	INSPECTION STAMPS . . . . .	
SECTION 11.0	PRESERVATION, PACKAGING, HANDLING, STORAGE, AND SHIPPING . . . . .	
SECTION 12.0	STATISTICAL PLANNING, ANALYSIS, AND QUALITY CONTROL . . . . .	
SECTION 13.0	TRAINING AND CERTIFICATION OF PERSONNEL . . . . .	
SECTION 14.0	DATA REPORTING AND CORRECTIVE ACTION . . . . .	
SECTION 15.0	AUDIT OF QUALITY PROGRAM PERFORMANCE	
OVERALL AVERAGE		

QUALITY PROGRAM PLAN

EVALUATION BY \_\_\_\_\_

APPROVED \_\_\_\_\_

CENTER \_\_\_\_\_

NOT APPROVED \_\_\_\_\_

DATE \_\_\_\_\_

# QUALITY PROGRAM PLAN EVALUATION

Center \_\_\_\_\_ Contractor \_\_\_\_\_ Date \_\_\_\_\_  
 Stage or Vehicle \_\_\_\_\_

SECTION 1.0 TITLE PAGE AND TABLE OF CONTENTS		Percent Rating	Remarks
1.1	<p>Does Title Page include:</p> <ul style="list-style-type: none"> <li>a. Title of document.</li> <li>b. Name and address of supplier.</li> <li>c. Equipment or article under contract or on order.</li> <li>d. Contract number or purchase order number.</li> <li>e. Date of document.</li> <li>f. Name of person responsible for preparation of document.</li> <li>g. Signature or other indication of management approval.</li> </ul>		
1.2	<p>Does Table of Contents include:</p> <ul style="list-style-type: none"> <li>a. Location of contents by section number and page.</li> <li>b. Reference to all applicable Quality Assurance Specifications.</li> <li>c. List of figures.</li> <li>d. List of attachments of exhibits in appendix.                             <ul style="list-style-type: none"> <li>1. Organization charts.</li> <li>2. Flow charts.</li> <li>3. Reference documents.</li> <li>4. Schedules and milestones.</li> </ul> </li> </ul>		
1.3	<p>Is there a revision index showing:</p> <ul style="list-style-type: none"> <li>a. Subject of revision.</li> <li>b. By whom revised.</li> <li>c. Approvals (contractor/NASA).</li> <li>d. Date of revision.</li> <li>e. Page and paragraph affected.</li> </ul>		

# QUALITY PROGRAM PLAN EVALUATION

Center \_\_\_\_\_ Contractor \_\_\_\_\_ Date \_\_\_\_\_  
 Stage or Vehicle \_\_\_\_\_

SECTION 2.0 BASIC REQUIREMENTS		Percent Rating	Remarks
2.1	<p><u>General</u>                      Is there an introductory paragraph stating the Contractor's policy and his overall approach regarding his Quality Assurance System.</p>		
2.2	<p><u>Scope</u>                      Is there a paragraph that clearly defines the areas covered by the Quality Program Plan.</p>		
2.3	<p><u>Applicable Documents</u>                      Is there a paragraph stating that the Quality Program Plan is intended to meet specific contractual quality assurance requirements, (i.e., NPC 200 series documents, other contract quality provisions).</p>		
2.4	<p><u>Relation to Detail Requirements</u>                      Is the subject of conflict between the Quality Program Plan and other contractual requirements mentioned, and does the Quality Program Plan state that the contractual requirements shall govern.</p>		
2.5	<p><u>Relation to Reliability Requirements</u>                      Is there a listing of the functional overlaps between the contractor's reliability program and quality assurance program either in the text of this plan or appended to it.</p>		

# QUALITY PROGRAM PLAN EVALUATION

Date \_\_\_\_\_

Stage or Vehicle \_\_\_\_\_

Center \_\_\_\_\_ Contractor \_\_\_\_\_

	SECTION 2.0 BASIC REQUIREMENTS	Percent Rating	Remarks
2.6	Does this statement indicate organizational relationship of reliability and quality control groups with respect to total organization.		
2.7	<p><u>Revision Procedure</u> Is there a section outlining the procedure for revisions to the Quality Program Plan including:</p> <ul style="list-style-type: none"> <li>a. Review with cognizant NASA installation.</li> <li>b. NASA approval prior to implementation.</li> <li>c. Organization responsible for initiating revision.</li> <li>d. Schedule of reviews.</li> </ul>		
2.8	<p><u>Quality Program</u> Do documented policies relating to quality activities define the delegation and separation of responsibility with associated authority. The specific responsibility and authority of the Quality function should be defined including the authority to prevent shipment of nonconforming articles.</p>		
2.9	Does the quality program provide for early and prompt detection and correction of all type quality deficiencies.		



# QUALITY PROGRAM PLAN EVALUATION

Center \_\_\_\_\_ Contractor \_\_\_\_\_ Date \_\_\_\_\_  
 Stage or Vehicle \_\_\_\_\_

SECTION 2.0 BASIC REQUIREMENTS		Percent Rating	Remarks
2.10	Is there indication that the contractor will make available recorded evidence of quality, such as inspection and test results to the cognizant NASA installation or its designated representatives.		
2.11	<u>Quality Program Documentation</u> Does the Quality Program Plan delineate the quality assurance documents, data, and reports required by contract and/or the Document Requirements List (DRL).		
2.12	Is there a schedule outlining submittal milestones.		
2.13	<u>Change Control System</u> Is there a change control system that provides for controlled distribution, usage, and removal of all control documents and changes thereto that affect the inspection program.		
2.14	Are product, test, special process, and material specifications in the change control system.		
2.15	Are inspection and test procedures, instructions, and related documents in the change control system.		

# QUALITY PROGRAM PLAN EVALUATION

Center \_\_\_\_\_

Contractor \_\_\_\_\_

Date \_\_\_\_\_

Stage or Vehicle \_\_\_\_\_

SECTION 2.0 BASIC REQUIREMENTS		Percent Rating	Remarks
2.16	Are processing instructions and related documents in the change control system.		
2.17	Are operating instructions and related documents in the change control system.		
2.18	Are drawings, drawing changes, and engineering change orders in the change control system.		
2.19	Are procurement documents in the change control system.		
2.20	This system should describe a method of distribution and checkout of control documents, such as signoff, signout, etc., and records of location of all documents.		
2.21	Does the change control system require that changes in documents that affect the quality program are to be reviewed by the quality assurance activity prior to becoming effective.		
2.22	Is there indication of review or approval of changes such as "signoff" of documents.		
2.23	Is there a flow chart delineating sequential steps in each change procedure.		

# QUALITY PROGRAM PLAN EVALUATION

Date \_\_\_\_\_

Center \_\_\_\_\_ Contractor \_\_\_\_\_ Stage or Vehicle \_\_\_\_\_

SECTION 2.0 BASIC REQUIREMENTS		Percent Rating	Remarks
2.24	Does the change control system require that points of effectivity of changes be clearly defined.		
2.25	Does the change control system require that all changed articles are so identified and inspected and/or tested.		
2.26	Does the change control system provide for re-tention of records that indicate incorporation of changes and define points of effectivity of changes.		

# QUALITY PROGRAM PLAN EVALUATION

Date \_\_\_\_\_

Stage or Vehicle \_\_\_\_\_

Center \_\_\_\_\_ Contractor \_\_\_\_\_

SECTION 3.0 MANAGEMENT		Percent Rating	Remarks
3.1	<p><u>Planning</u> Are the policies and objectives of Quality Assurance clearly defined. (This section should not be a restatement of para. 2.1 under Basic Requirements.)</p>		
3.2	<p>Is there a documented means for measuring realization against the Quality Program Plan.</p>		
3.3	<p>Is there a flow chart indicating specific quality operations and responsibilities starting at contract award and continuing through delivery of the article (i.e., design review participation, purchase order review, inspection and test operation, etc.).</p>		
3.4	<p>Does the plan indicate milestones for completion or implementation of the elements of the quality program as delineated in the flow chart.</p>		
3.5	<p><u>Organization</u> Is there an organization chart, or description defining relation of Quality Assurance organization with respect to the entire organization.</p>		
3.6	<p>Are specific segments of the Quality Assurance organization defined or shown on the chart.</p>		
3.7	<p>Are functions and responsibilities of each quality assurance segment defined.</p>		

# QUALITY PROGRAM PLAN EVALUATION

Center \_\_\_\_\_ Contractor \_\_\_\_\_ Date \_\_\_\_\_  
 Stage or Vehicle \_\_\_\_\_

SECTION 3.0 MANAGEMENT		Percent Rating	Remarks
3.8	Is participation of the Quality function in other contractor functions (dotted line relationship to Engineering, Purchasing, Reliability, etc.) defined or shown on the chart.		
3.9	Does the organization chart or description indicate that the Director of the Quality Assurance Program has direct access to higher management.		

# QUALITY PROGRAM PLAN EVALUATION

Date \_\_\_\_\_

Center \_\_\_\_\_ Contractor \_\_\_\_\_ Stage or Vehicle \_\_\_\_\_

SECTION 4.0 DESIGN AND DEVELOPMENT CONTROL		Percent Rating	Remarks
4.1	<p><u>Design Review</u> Is there a procedure for Quality Assurance participation and responsibilities in Design Review activities described in this Plan or referenced in the Reliability Program Plan.</p>		
4.2	<p>Does design review procedure include a requirement for documentation of design review.</p>		
4.3	<p><u>Drawing and Specification Review</u> Is there a procedure for review of drawings, specifications, and technical documents to establish quality and reliability characteristics and conformance criteria.</p>		
4.4	<p>Are reviews of drawings, specifications, and technical documents documented.</p>		
4.5	<p>Do documents which contain quality requirements include:</p> <ul style="list-style-type: none"> <li>a. Identification of the article.</li> <li>b. Quality characteristics.</li> <li>c. Inspection and test methods.</li> <li>d. Conformance limits.</li> </ul>		
4.6	<p>Are the documented results of drawing and specification reviews available to the cognizant NASA installation.</p>		

# QUALITY PROGRAM PLAN EVALUATION

Center \_\_\_\_\_ Contractor \_\_\_\_\_ Date \_\_\_\_\_  
 Stage or Vehicle \_\_\_\_\_

	SECTION 4.0 DESIGN AND DEVELOPMENT CONTROL	Percent Rating	Remarks
4.7	Are applicable government drawings, specifications and technical documents included in this document review program.		
4.8	Is the selection and use of qualified and preferred parts described or is a procedure for this referenced in a section of the Reliability Program Plan.		
4.9	Are specific preferred parts lists either cited in contract or to be prepared by contractor listed.		
4.10	<u>Qualification Tests</u> Is a qualification test program either described in this Plan or referenced in a section of the Reliability Program Plan or the General Test Plan.		
4.11	Does this program include: a. Functions responsible for qualification testing b. Requalification requirements. c. Maintenance of qualification status. d. Parts and levels of assembly subject to qualification.		
4.12	Are the submittal periods for qualification status lists established and identified.		

# QUALITY PROGRAM PLAN EVALUATION

Date \_\_\_\_\_

Stage or Vehicle \_\_\_\_\_

Center \_\_\_\_\_ Contractor \_\_\_\_\_

SECTION 4.0 DESIGN AND DEVELOPMENT CONTROL		Percent Rating	Remarks
4.13	<p><u>Establishment and Maintenance of Identification</u> Does this Plan or a referenced section of the Reliability Program Plan describe the contractor's method for identification of materials, processes and design parameters in design documentation to indicate their relationship and means of associating measured results with particular articles.</p>		
4.14	<p>Is identification by part number described.</p>		
4.15	<p>Is determination of the articles that are to be controlled by serialization, lot numbering or date coding defined.</p>		
4.16	<p>Is application of serialization, lot numbering or date coding of articles and the record keeping of this information described.</p>		
4.17	<p>Is incoming material identification described.</p>		
4.18	<p>Is fabricated material identification described.</p>		



# QUALITY PROGRAM PLAN EVALUATION

Date \_\_\_\_\_

Stage or Vehicle \_\_\_\_\_

Center \_\_\_\_\_ Contractor \_\_\_\_\_

	SECTION 5.0 CONTROL OF CONTRACTOR PROCURED MATERIAL	Percent Rating	Remarks
5.1	<u>Selection of Procurement Sources</u> Is there a procedure for evaluating procurement sources.		
5.2	Is this source evaluation based on either previous high quality documented record of supplier, or surveys of suppliers' facilities and procedures by Quality personnel.		
5.3	Are the results of these evaluations documented and available to NASA installation.		
5.4	Is there a procedure for maintaining the necessary records for establishing and maintaining a quality history for each subcontractor and supplier.		
5.5	<u>Procurement Documents</u> Are the purchasing documents required to include provisions for basic technical requirements. (Drawings, specifications, etc.)		
5.6	Are the purchasing documents required to include provisions for Government source inspection requirements including one of the two quotes in Section 5.3.1 b of NPC 200-2.		
5.7	Are the purchasing documents required to include provisions for contractor source inspection requirements.		

# QUALITY PROGRAM PLAN EVALUATION

Date \_\_\_\_\_

Stage or Vehicle \_\_\_\_\_

Center \_\_\_\_\_ Contractor \_\_\_\_\_

SECTION 5.0 CONTROL OF CONTRACTOR PROCURED MATERIAL	Percent Rating	Remarks
5.8	Are the purchasing documents required to include provisions for subcontractor quality program requirements; NPC 200-2, NPC 200-3, combination of NPC 200-2 and 200-3, or other.	
5.9	Are the purchasing documents required to include provisions for purchased raw materials control.	
5.10	Are the purchasing documents required to include provisions for control of raw materials used in purchased articles.	
5.11	Are the purchasing documents required to include provisions for securing records of suppliers' inspections.	
5.12	Are the purchasing documents required to include provisions for identification, preservation and packaging of procured articles.	
5.13	Are the purchasing documents required to include provisions for age control.	
5.14	Are the purchasing documents required to include provisions for resubmission of rejected procured material.	
5.15	Are the purchasing documents required to include provisions for changes in design of supplier articles.	

# QUALITY PROGRAM PLAN EVALUATION

Center \_\_\_\_\_ Contractor \_\_\_\_\_ Date \_\_\_\_\_  
 Stage or Vehicle \_\_\_\_\_

SECTION 5.0	CONTROL OF CONTRACTOR PROCURED MATERIAL	Percent Rating	Remarks
5.16	Do procedures require that all procurement documents be reviewed by the quality organization prior to release of the document for procurement.		
5.17	Are all procurement documents available to the cognizant NASA installation or its representative.		
5.18	Contractor Source Inspection Do procedures provide for contractor source inspection as needed or desired by contractor.		
5.19	Is contractor source inspection provided when procured articles are at a level of assembly where verification of quality cannot be ascertained at contractor's plant.		
5.20	Is contractor source inspection provided when quality cannot be determined solely by inspection or tests of completed procured articles.		
5.21	Is contractor source inspection provided when verification tests are destructive.		
5.22	Is contractor source inspection provided when unique testing facilities for environmental tests exist at the supplier's plant.		
5.23	Is there provision for suppliers to provide objective evidence of compliance with requirements in lieu of contractor source inspection.		

# QUALITY PROGRAM PLAN EVALUATION

Center \_\_\_\_\_ Contractor \_\_\_\_\_ Date \_\_\_\_\_  
 Stage or Vehicle \_\_\_\_\_

SECTION 5.0	CONTROL OF CONTRACTOR PROCURED MATERIAL	Percent Rating	Remarks
5.24	<p><u>Receiving Inspection</u>                      Are procedures for inspection of incoming material and articles included in this plan or referenced for future submittals.</p>		
5.25	<p>Do procedures provide for acceptance of only those items that are qualified and have been inspected by the supplier and attested as having been inspected.</p>		
5.26	<p>Do procedures provide for planning and performance of inspections and tests on all procured items.</p>		
5.27	<p>Do procedures provide for receiving inspection facilities, instructions and equipment.</p>		
5.28	<p>Do procedures provide for material age control.</p>		
5.29	<p>Do procedures provide for chemical and physical tests as required on test specimens or on raw materials.</p>		
5.30	<p>Do procedures provide for physical separation of raw materials into the three categories of:</p> <ul style="list-style-type: none"> <li>a. Uninspected</li> <li>b. Acceptable or conforming</li> <li>c. Rejected material</li> </ul>		
5.31	<p>Are all purchased articles identified after release from incoming inspection to indicate acceptance or rejection.</p>		

# QUALITY PROGRAM PLAN EVALUATION

Date \_\_\_\_\_

Center \_\_\_\_\_ Supplier \_\_\_\_\_

Stage or Vehicle \_\_\_\_\_

	SECTION 5.0 CONTROL OF CONTRACTOR PROCURED MATERIAL	Percent Rating	Remarks
5.32	Is there a procedure to provide rapid feedback of failure data to suppliers for assuring rapid and effective corrective action described in this Plan or referenced in the Reliability Program Plan.		
5.33	<u>Supplier Rating and Preferred Source Lists</u> Is there provision for evaluating and rating the quality capabilities of each supplier.		
5.34	Are preferred source lists developed and maintained for these supplier ratings.		
5.35	<u>Coordination of Contractor-Supplier Measuring and Test Equipment, Standards</u> Is there a procedure for coordination of inspection, measuring and test equipment between the contractor and his suppliers.		
5.36	Are inspection and test procedures correlated.		

# QUALITY PROGRAM PLAN EVALUATION

Center \_\_\_\_\_ Date \_\_\_\_\_

Contractor \_\_\_\_\_ Stage or Vehicle \_\_\_\_\_

SECTION 6.0	CONTROL OF GOVERNMENT FURNISHED PROPERTY (GFP)	Percent Rating	Remarks
6.1	<u>Inspection of Government Furnished Property</u> <u>Are there procedures for control of GFP.</u>		
6.2	Do these procedures include provisions for: a. Receiving inspection b. Functional testing c. Protection d. Adequate storage e. Qualification assurance		
6.3	<u>Defective Government Furnished Property</u> <u>Are procedures for defective GFP described in</u> <u>sufficient detail to include segregation and handling</u> <u>to prevent further damage or repair cost and provide</u> <u>for notification of nonconformance to NASA.</u>		

# QUALITY PROGRAM PLAN EVALUATION

Date \_\_\_\_\_

Center \_\_\_\_\_ Contractor \_\_\_\_\_

Stage or Vehicle \_\_\_\_\_

	SECTION 7.0 CONTROL OF CONTRACTOR-FABRICATED ARTICLES	Percent Rating	Remarks
7.1	<p><u>Inspection and Test Planning</u> Does this Plan contain an outline of an inspection plan including necessary associated testing.</p>		
7.2	<p>Is there a flow chart indicating inspection stations and control points.</p>		
7.3	<p>Are specific written inspection and test procedures prepared for each operation of test and inspection.</p>		
7.4	<p>Are these test and inspection procedures submitted as part of this Quality Program Plan, or referenced for separate submittal.</p>		
7.5	<p>Is there a complete listing of all of the test and inspection procedures that are used.</p>		
7.6	<p>Are there provisions for assuring that the test and inspection procedures are available to the test and inspection personnel and are physically located at the applicable station at the time of inspection and test.</p>		
7.7	<p>Is the responsibility established for defining the characteristics to be observed.</p>		

# QUALITY PROGRAM PLAN EVALUATION

Center \_\_\_\_\_ Contractor \_\_\_\_\_ Date \_\_\_\_\_  
 Stage or Vehicle \_\_\_\_\_

SECTION 7.0	CONTROL OF CONTRACTOR-FABRICATED ARTICLES	Percent Rating	Remarks
7.8	<p>Do the test and inspection procedures include as a minimum the following for each characteristic:</p> <ul style="list-style-type: none"> <li>a. Conditions which should exist at each examination point.</li> <li>b. Tolerance condition.</li> <li>c. Levels of inputs or stresses.</li> <li>d. Definition of optimum acceptable conditions.</li> </ul>		
7.9	<p>Is there a procedure for establishment and control of workmanship inspection standards.</p>		
7.10	<p>Do procedures provide for establishment of organization responsibility for determination of need, selection and approvals of workmanship standards.</p>		
7.11	<p>Do procedures provide for revision, updating and eventual disposition of workmanship standards.</p>		
7.12	<p><u>Inspection and Test Performance</u>                      Is there an established system of defect prevention consisting of observation, analysis and records of nonconformance during all phases of fabrication.</p>		
7.13	<p>Does this defect prevention system refer to a corrective action procedure.</p>		
7.14	<p>Does the system require that the individuals performing test and inspection operations are identified on the reports.</p>		



# QUALITY PROGRAM PLAN EVALUATION

Center \_\_\_\_\_ Contractor \_\_\_\_\_ Date \_\_\_\_\_  
 Stage or Vehicle \_\_\_\_\_

SECTION 7.0 CONTROL OF CONTRACTOR-FABRICATED ARTICLES		Percent Rating	Remarks
7. 15	Is there evidence that test and inspection planning provide for verification of all plant processing and fabrication operations.		
7. 16	Does this planning assure that inspections and tests are performed at or before the last station at which quality of the characteristic can be completely verified.		
7. 17	Is there a description of an End-Item Test Plan included in the Plan or referenced in the General Test Plan.		
7. 18	Are the end-item test and inspection procedures described in this Plan or referenced in the General Test Plan.		
7. 19	Is there a time-phase schedule for development of the end-item test plan in relation to hardware events.		
7. 20	Is the schedule for submittal of end-item test procedures included.		
7. 21	<u>Fabrication Controls</u> Is there a description of the procedure for the control of production tooling, jigs and fixtures which control dimensions and contours to assure initial accuracy and repeatability.		

# QUALITY PROGRAM PLAN EVALUATION

Date \_\_\_\_\_

Center \_\_\_\_\_ Contractor \_\_\_\_\_ Stage or Vehicle \_\_\_\_\_

SECTION 7.0 CONTROL OF CONTRACTOR-FABRICATED ARTICLES		Percent Rating	Remarks
7.22	Is there a description of the procedure for the control of all materials undergoing fabrication.		
7.23	Do fabrication materials control procedures provide for: <ol style="list-style-type: none"> <li>1. Identification of materials.</li> <li>2. Segregation of nonconforming material.</li> <li>3. Identification of limited life items.</li> <li>4. Protection from contamination.</li> </ol>		
7.24	Is there a description of the controls for maintaining required cleanliness of fabrication and test areas.		
7.25	Are clean areas delineated.		
7.26	Are clean areas environments specified.		
7.27	Is there a description of the program for control of special fabrication processes and special inspection processes.		
7.28	Are special fabrication and inspection processes delineated.		
7.29	Where special environments are required, do procedures specify means of control.		
7.30	Are process certification procedures included.		
7.31	Are processes requiring certification delineated.		

# QUALITY PROGRAM PLAN EVALUATION

Date \_\_\_\_\_

Stage or Vehicle \_\_\_\_\_

Center \_\_\_\_\_ Contractor \_\_\_\_\_

	SECTION 8.0 NONCONFORMING MATERIAL	Percent Rating	Remarks
8.1	<u>Control of Nonconforming Material</u> Is there a description of the program for the control of nonconforming material.		
8.2	Is nonconforming material defined in procedures.		
8.3	Do procedures provide for identification of nonconforming material.		
8.4	Do procedures provide for reporting of nonconformances.		
8.5	Do procedures require segregated facilities for nonconforming material.		
8.6	Do procedures provide for review and disposition of nonconforming material.		
8.7	Do procedures provide for establishment of material review board (MRB)		
8.8	Do MRB procedures provide for or discuss subcontractor MRB.		
8.9	Is rework of nonconforming material without MRB action defined.		
8.10	<u>Approval of Contracting Officer</u> Is there provision for approval by contracting officer for certain nonconformances.		

# QUALITY PROGRAM PLAN EVALUATION

Center \_\_\_\_\_ Contractor \_\_\_\_\_ Date \_\_\_\_\_  
 Stage or Vehicle \_\_\_\_\_

SECTION 9.0 INSPECTION, MEASURING AND TEST EQUIPMENT		Percent Rating	Remarks
9.1	<p><u>General</u>                      Is there provision for selection, evaluation and control of inspection, measuring and test equipment.</p>		
9.2	<p>Are production tools and automated equipment incorporating inspection or measuring functions included as inspection, measuring, and test equipment.</p>		
9.3	<p><u>Calibration</u>                      Are there procedures for calibration of inspection, measuring and test equipment.</p>		
9.4	<p>Are there procedures for checking factory tooling used for measurements.</p>		
9.5	<p>Are there provisions for displaying calibration date and due dates for recalibration on the equipment.</p>		
9.6	<p><u>Calibration Facilities and Standards</u>                      Is there provision for a standards laboratory for calibration of inspection, measuring and test equipment.</p>		
9.7	<p>Are environments to be maintained in the calibration standards laboratory defined.</p>		
9.8	<p>Are standards tolerances specified.</p>		
9.9	<p>Are calibration standards certified traceable to national standards.</p>		

# QUALITY PROGRAM PLAN EVALUATION

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	SECTION 9.0 INSPECTION, MEASURING AND TEST EQUIPMENT	Percent Rating	Remarks
9.10	<u>Evaluation</u> Is there a detailed procedure for evaluation of inspection, measuring and test equipment prior to use.		
9.11	Is there provision for submitting these evaluations to NASA for review prior to use.		
9.12	<u>Maintenance and Control Procedures</u> Is there a procedure for periodic maintenance, recalibration, and control of all inspection, measuring and test equipment.		
9.13	Is there provision for identification and removal from service of all equipment that is defective, out of calibration, or beyond its calibration due date.		
9.14	<u>Records</u> Do procedures require that records are maintained on the calibration status, condition, and corrections for each item of inspection, measuring and test equipment.		
9.15	Are variables data maintained and used for determining the need for revisions of maintenance and calibration schedules.		

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SECTION 10.0 INSPECTION STAMPS		Percent Rating	Remarks
10.1	<p><u>General</u> Is there a description of the contractor's inspection stamp control system.</p>		
10.2	Does this system provide for stamps or markings to identify status of inspection.		
10.3	Are stamps traceable to individual responsible.		
10.4	Are stamps designed to be applied direct to article when practical and to tags, cards, labels, and containers when necessary.		
10.5	Are stamps designed so that they cannot be confused with Government inspection stamps.		

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	SECTION 11.0 PRESERVATION, PACKAGING, HANDLING, STORAGE, AND SHIPPING	Percent Rating	Remarks
11.1	<u>General</u> Are there written procedures for the preservation, packaging, handling, storage, and shipping of all articles.		
11.2	Is the quality assurance organization required to review and approve these procedures.		
11.3	Are these procedures available to the cognizant NASA installation.		
11.4	<u>Preservation</u> Are there procedures for preservation: a. During fabrication. b. During interim storage. c. When packaged for shipment.		
11.5	Is responsibility for determining need for preservation established.		
11.6	<u>Packaging</u> Are there procedures for packaging.		
11.7	Are means for indicating critical environments in the package included.		
11.8	<u>Handling</u> Are there procedures for special handling of articles susceptible to damage during fabrication, transportation, and in the field.		

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	SECTION 11.0 PRESERVATION, PACKAGING, HANDLING, STORAGE, AND SHIPPING	Percent Rating	Remarks
11.9	<p><u>Storage</u> Are there procedures for protection of items to be stored.</p>		
11.10	<p>Do procedures provide for the safety, maintenance, and inspection of stored items.</p>		
11.11	<p>Are there procedures for temporary storage of end items if such is required.</p>		
11.12	<p>Have these storage procedures been submitted to NASA for review.</p>		
11.13	<p><u>Shipping</u> Are there procedures for inspection and control of all articles shipped from this plant.</p>		
11.14	<p>Do procedures assure that:</p> <ul style="list-style-type: none"> <li>a. All articles have satisfactorily passed all inspections and tests.</li> <li>b. All articles are complete.</li> <li>c. All articles are preserved and packed according to instructions.</li> <li>d. All articles are identified and marked in accordance with specifications, and</li> <li>e. All necessary shipping papers and documents are with the articles.</li> </ul>		



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	SECTION 12.0 STATISTICAL PLANNING, ANALYSIS, AND QUALITY CONTROL	Percent Rating	Remarks
12.1	<p><u>General</u> Is there evidence that the contractor has established and uses procedures for statistical planning and analysis.</p>		
12.2	<p><u>Statistical Analysis and Test Planning</u> Is there evidence of the use of methods such as design of experiments, analysis of variance, and statistical test planning.</p>		
12.3	<p><u>Sampling Plans</u> Are sampling plans proposed to be used.</p>		
12.4	<p>Are sampling plans specified as one or more of the standard military plans such as MIL-STD-105.</p>		
12.5	<p>Are contractors' special plans proposed to be used and if so, are they approved by the cognizant NASA installation.</p>		
12.6	<p>Is responsibility for determining the use of sampling plans established.</p>		
12.7	<p><u>Statistical Quality Control Charts</u> Is there provision for the use of statistical quality control charts.</p>		
12.8	<p>Are statistical quality control charts proposed to be displayed in a location to provide maximum use.</p>		

# QUALITY PROGRAM PLAN EVALUATION

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SECTION 13.0 TRAINING AND CERTIFICATION OF PERSONNEL		Percent Rating	Remarks
13.1	<p><u>Training</u> Is there a formal training program implemented and maintained for training quality control, purchasing, manufacturing, and other personnel who have an effect upon or who are responsible for the determination of quality.</p>		
13.2	Is the training program of sufficient depth and comprehension to assure effective quality indoctrination.		
13.3	Is particular emphasis given to the function and mission of the end item, to new articles, and to special techniques and procedures in training programs.		
13.4	Are means provided to evaluate proficiency and to determine the effectiveness of training.		
13.5	Is additional training provided when the need is indicated.		
13.6	Is the responsibility for determining the need and developing the program of quality training assigned to the quality assurance function.		
13.7	Are training programs described by function, types of personnel in attendance, and organizational components responsible for implementation.		

# QUALITY PROGRAM PLAN EVALUATION

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SECTION 13.0	TRAINING AND CERTIFICATION OF PERSONNEL	Percent Rating	Remarks
13.8	<p><u>Certification of Fabrication and Inspection Personnel</u>            Do procedures require that personnel responsible for controlling special processes or performing special operations having a significant effect on quality are to be certified.</p>		
13.9	<p>Do certification procedures require adequate training and examination for all personnel to qualify for certification.</p>		
13.10	<p>Are certified personnel issued a card to be carried with them when performing their operations.</p>		
13.11	<p>Is there a monitoring program to assure retraining and recertification when required.</p>		
13.12	<p>Is provision made to assist the cognizant NASA installation in reviewing or repeating the certification.</p>		
13.13	<p>Are the special processes requiring certification of fabrication and inspection personnel defined.</p>		
13.14	<p>Is the responsibility for certification of these personnel defined.</p>		

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14.1	SECTION 14.0 DATA REPORTING AND CORRECTIVE ACTION	Percent Rating	Remarks
14.2	<p><u>General</u>            Are there procedures and responsibilities established by the contractor for the collection and analysis of all trouble, failure, and quality data.</p> <p>Do these procedures include effective follow-up to assure timely corrective action.</p>		
14.3	<p>Is the use of the analysis of the collected data specified, i.e.,</p> <ol style="list-style-type: none"> <li>Provide indicators of design and fabrication deficiencies.</li> <li>Provide management with quality trends.</li> <li>Provide corrective and preventive action information.</li> <li>Provide subcontractor quality ratings.</li> <li>Etc.</li> </ol>		
14.4	<p><u>Data Reporting</u>            Are there provisions for distributing within the contractor's organization, and to the cognizant NASA installation, the following reports and data:</p> <ol style="list-style-type: none"> <li>Monthly Quality Status Report.</li> <li>Laboratory and Experimental Data.</li> <li>Quality Data.</li> <li>Narrative End-Item Report.</li> <li>Operational Data.</li> <li>Other Quality Data.</li> </ol>		

# QUALITY PROGRAM PLAN EVALUATION

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	SECTION 14.0 DATA REPORTING AND CORRECTIVE ACTION	Percent Rating	Remarks
14.5	<p>NOTE: The DRL and the associated DRD should be reviewed to be sure all applicable quality assurance documents are included in the DRL and their contents considered in this Plan Review.</p> <p><u>Corrective Action</u>                      Does this Quality Program Plan provide for a dynamic corrective action program for all troubles, malfunctions, deficiencies and failures discovered by the contractor or his suppliers.</p>		
14.6	<p>Is there a program for failure analysis including a laboratory facility for the purpose of performing physical teardown and analysis of failed hardware either described in this Plan or referenced in the Reliability Program Plan.</p>		
14.7	<p>Does the failure analysis program provide for notification to design, quality control, manufacturing, and supplier organizations that corrective and preventive action is required.</p>		
14.8	<p>Does the failure analysis program provide for the requirement of data and parts examination to determine nature and cause of failure.</p>		
14.9	<p>Does the failure analysis program provide for supplying NASA with samples of failed articles when requested.</p>		

# QUALITY PROGRAM PLAN EVALUATION

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SECTION 14.0 DATA REPORTING AND CORRECTIVE ACTION		Percent Rating	Remarks
14.10	Does the failure analysis program provide for analysis of malfunctions due to human errors to be made by personnel skilled in human factors engineering.		
14.11	Does the failure analysis program provide for analysis of malfunctions due to other causes to be made by engineering, reliability, or quality organization as pertinent.		
14.12	Does the failure analysis program provide for assurance of timely and effective corrective action.		
14.13	Does the failure analysis program provide for review of affected articles to be approved by quality assurance function.		
14.14	Does the failure analysis program provide for review by qualified personnel of the corrective action scheduled or completed and notation of each deficiency in reports until adequate action is taken.		

# QUALITY PROGRAM PLAN EVALUATION

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SECTION 15.0 AUDIT OF QUALITY PROGRAM PERFORMANCE		Percent Rating	Remarks
15.1	<u>Performance of Audits</u> Are auditing policies defined.		
15.2	Do auditing procedures specify that the quality audits are performed by qualified quality personnel having no direct line responsibility for the areas under audit.		
15.3	Do auditing procedures provide for complete coverage and penetration in depth of all quality functions.		
15.4	Do auditing procedures require that the areas to be audited are selected on a random, unannounced basis.		
15.5	Is there an auditing plan showing approximate milestones and elements to be audited.		
15.6	Does the procedure specify responsibility for conducting audits and reporting results.		
15.7	<u>Audit Reporting and Corrective Action</u> Do audit procedures require that reports of each audit with recommendations for corrective action be prepared and distributed to the appropriate contractor management and to be made available to the NASA representative.		
15.8	Do audit reports include a schedule for corrective action and the function responsible.		

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15.9	SECTION 15.0 AUDIT OF QUALITY PROGRAM PERFORMANCE	Percent Rating	Remarks
	Are follow-up reviews made more frequently of deficient areas until corrective action is obtained and so reported.		
15.10	Are quarterly summaries of quality performance audits prepared and distributed to management and to the cognizant NASA installation.		